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㉕ Process for obtaining baking products, and products thereby obtained.

㉖ A baking process, wherein through use of amyloseous or
starchy products, absolutely free from wheat, barley, oat and
rye gluten, that is through use of amyloseous or starchy sub-
stances deriving in particular from rice, maize, soy bean and
potatoes, products are obtained of the type of bread, bread
sticks and the like, absolutely free from gluten which is harm-
ful to the health of people suffering from coeliac disease or
nephrosis. Products obtained through such process.

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FILIPPO SIDOTI

Process for obtaining baking products,
and products thereby obtained.

This invention refers to a process for obtaining new baking products, of the type of bread, bread sticks, rusks and the like, as well as products obtained through such process.

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As it is well known the ingestion of gluten is harmful to people suffering from nephrosis or coelical disease.

10 Therefore all those who cannot take in gluten without suffering damages to their health, cannot use, without suffering from such damages, the usual baking products, such as bread, bread sticks etc., which contain amylaceous or starchy substances deriving from wheat, barley, oat and rye, that is containing gluten which is harmful to
15 the above mentioned people.

In order to obtain baking products not containing said harmful gluten, amylaceous and starchy substances should be therefore used not deriving from wheat, barley, oat

and rye, but on the other hand deriving from rice, maize, or corn, soy bean, potatoes and all those other edible amylaceous or starchy substances in the chemical composition of which said harmful gluten does not 5 appear.

Baking absolutely without wheat, barley, rye and oat gluten will however involve serious drawbacks due to the fact that amylaceous or starchy substances free 10 from harmful gluten, in the mixing phase which is necessary in order to obtain the desired baking, imply several difficulties concerning:

15 an insufficient tie (due to the absence of said gluten, which, if on one hand would have the already mentioned harmful effect, on the other hand is a protein having particular glueing characteristics);

20 the consequent inelasticity (incapacity that is to let itself be formed);

the scarce capability of withholding when not baked the indispensable quantity of water in the cooking and leavening phases.

25 The object therefore of this invention is that to achieve a process for obtaining baking products harmless to the above mentioned people, avoiding at the same time the difficulties and drawbacks illustrated.

30 The process according to the present invention allows in fact to obtain, thanks to the particular operative cycle

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and to the particular percentages of the ingredients,
conditions which are equal to those which are obtained
starting from a flour which is rich in gluten, allowing
therefore an easy mixture and an excellent leavening.

5 The process according to the present invention is
characterized substantially by the fact that it comprises
the operations of: dry mixing the potato flour and
saccharose; adding to the mixture so obtained whole cow
10 milk, in order to form a solution/suspension; very slow-
ly applying heat to said solution/suspension; still
mixing to the end of obtaining a homogeneity as great as pos-
sible, till the solution/suspension thickens; allowing the
15 thickened composition to cool down; pouring said composition
of the composition under the form of flour, formed by an
edible animal fat and possibly salt, within a first part
amylaceous or starchy product, free from wheat, barley,
oat and rye gluten and begin to mix the whole; adding
20 yeast (saccharomyces cultivated on non proteic ground)
diluted in water, pouring gradually into the dough which
has created, and gradually adding a second part of said
composition under the form of flour, continuing to mix
so that the dough results as homogeneous as possible;
25 and eventually performing the further usual operations,
such as shaping, leavening, extruding, cooking, etc.,
in order to obtain the desired finished product.

Said amylaceous or starchy product may be formed by
flour or starch of maize, potato flour, flour or starch
30 of rice, flour or starch of soy bean, or by any whatso-
ever mixture thereof. According to a characteristic of
said process, potato flour, saccharose and whole cow

milk, mentioned in the first two operation of the process itself, are in proportions of weight of about 4:5:36.

5 A specific example of embodiment will be described hereinafter of the present process, apt to produce bread absolutely free from said harmful gluten.

Ingredients:

10 - 300 g of amylaceous mixture formed by maize starch (50%) and of potato flour (50%);
- potato flour (20 g);
- saccharose (25 g);
- whole cow milk (180 g);
15 - lard (40 g);
- yeast (saccharomycetes cultivated on non proteic ground) (25 g);
- water (50 g);
- salt (sodium chloride) as required.

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Starting from such ingredients the process involves the following operations:

- 1) dry mixing the 25 g of saccharose with the 20 g of potato flour;
- 25 2) adding to the mixture so obtained the 180 g of milk, in order to form a solution/suspension;
- 3) very slowly adding heat (final temperature 100÷110°C) to said solution/suspension, still mixing to the end of obtaining a homogeneity as great as possible, till 30 the solution/suspension thickens;
- 4) allowing the thickened composition to cool off (up to about 35°C);

- 5) pouring said composition, as well as the 40 g of lard and possibly salt, into about 50% of said 300 g of amylaceous mixture, and beginning to mix;
- 6) adding 25 g of diluted yeast into the 50 g of tepid water, pouring it gradually into the dough which has developed, and gradually adding the remaining 50% of the said 300 g of amylaceous mixture, continuing to mix so that the dough results as homogeneous as possible;
- 10 7) forming the dough according to the desired shapes, placing it to leaven in an airy ambient and in optimum temperature conditions (25-30°C);
- 8) after the necessary leavening time has passed (about 1 hour), placing in an oven to cook at a temperature of 220±250°C.
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By means of the process according to the present invention, by varying appropriately the mixture of flours or starches, the proportions of certain ingredients as well as the final operations of the type of forming, leavening, extruding, cooking, etc., a wide variety of food products is obtained such as bread, bread sticks, rusks, etc., all characterized by the absolute absence of wheat, barley, oat and rye gluten, and therefore completely harmless for the people mentioned at the beginning.

It is obvious that many and different variations may be brought by the experts in the art to the illustrated form of embodiment of the present invention, without departing from its scope. It is intended that such variations and modifications all fall within the field of the invention itself.

Claims:

1. A process for obtaining baking products characterized by the fact that it comprises the operations of: dry mixing potato flour and saccharose; adding to the mixture so obtained whole cow milk, so as to form a solution/suspension; adding heat very slowly to said solution/suspension, still mixing to the end of obtaining a homogeneity as great as possible, till the solution/suspension thickens; allowing the thickened composition to cool off; pouring said composition, edible animal fat and possibly salt, within a first part of a composition under the form of flour, formed by an amylaceous or starchy product, free from gluten of wheat, barley, oat and rye, and beginning to mix the whole; adding starch diluted in water, pouring it gradually into the dough which has developed, and adding gradually a second part of said composition under the form of flour, continuing to mix so that the dough results as homogeneous as possible; and performing the further usual operations, such as shaping, leavening, extruding, cooking, etc., in order to obtain the desired finished product.
2. The process according to claim 1 characterized by the fact that said composition under the form of flour is formed by flour of maize starch, potato flour, flour or starch of rice, flour or starch of soy bean, or similar products or any mixture thereof.
3. The process according to claim 1 or 2, characterized by the fact that said first part and said second part of said composition under the form of flour are in the proportion of weight of about 1:1.

4. The process according to any of the preceding claims, wherein said compositions of potato flour, saccharose and whole cow milk, mentioned in the first two operations of the process, are in the proportions of weight of about 4:5:36.

5. The product under the form of bread, bread sticks, rusks and the like, absolutely free from gluten of wheat, barley, oat and rye, obtained through the process according to any of the preceding claims.